

"788"). This rejection is traversed. The rejection is a word for word duplicate as set forth in the last Office Action.

In section 3 of the Office Action, the Patent Office details reasons why the claims were asserted to be "anticipated" by the reference to Hepburn "788."

While the Patent Office has rejected the claims under 35 U.S.C. § 102, in fact in a rejection under 35 U.S.C. § 103 as set forth in Section 6, the Office Action at least correctly recognizes that "Hepburn", however, fail to disclose in specific detail the mechanism in which SO_x is purified by the exhaust gas purifying means." Actually, this statement in the rejection set forth in Section 6 clearly indicates that a rejection under 35 U.S.C. § 102 is erroneous. While it is recognized that a rejection under 35 U.S.C. § 102 and 35 U.S.C. § 103 can be made where there is a question of interpretation, here, the Office Action at least correctly recognizes features that are missing from Hepburn and thus a rejection under 35 U.S.C. § 102 is not viable. For the convenience of review of the Examiner, the previous traverse of this rejection is set forth below.

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In base claim 1, the exhaust-purifying means has a function also of a three-way catalyst. Thus, the gas purifying means in the context claimed provides a double function. In the last section of claim 1, "a substance decreasing the NO_x conversion efficiency of the exhaust gas purifying means is released during operation of the control means and is converted by said function of the three-way catalyst of the exhaust purifying means" has been claimed. The substance, for example, is a sulfur component as explained in

the description of Figures 4A and 4B of the drawings as set forth in the specification on page 7, lines 24-29.

As in the present claim (base claim 1), the exhaust purifying means has also a function of a three-way catalyst, while the substance decreasing the NO_x conversion efficiency is released from the gas purifying means, which is converted into a harmless substance of the function of the three-way catalyst.

As the light off catalyst has HC conversion efficiency that is constant (see claim 2 explanation below) and a lower O₂ storage capability than the exhaust purifying means, HC is converted into a harmless substance and most of the exhaust from the engine breakthrough in the light off catalyst. Accordingly, the substance decreasing the NO_x conversion efficiency is released from the gas purifying means during operation of said control means.

In Hepburn, in column 4, lines 7-12, Hepburn discloses the system design forces HC, CO, and O₂ breakthrough in the TWC (three-way catalyst). Namely, the TWC of this system is designed to reduce especially HC and CO purifying efficiency to promote chemical reactions in the NO_x trap (32) for creating exotherm in the trap.

Therefore, Hepburn does not have the above-function of each of the independent claims (claim 2 also discussed below) and does not solve the problem solved by the present structure.

3-way cat. for main cat.

Accordingly, claim 1 is not anticipated from the reference to Hepburn.

With respect to claims 8-14, these claims are considered patentable for at least the same reasons as base claim 1.

**ADDITIONAL COMMENTS REGARDING THE
REJECTION UNDER 35 U.S.C. § 102**

In describing the features of Hepburn '788, in an effort to establish a rejection under 35 U.S.C. § 102(e) certain comments were made.

Initially, the gas purifying means (32) was stated to have a function of a three-way catalyst. But as identified in the reference, element 26 is the three-way catalyst (TWC). See, for example, Hepburn, column 2, lines 61-63. Also, in identifying the light-off catalyst, element 26 was identified but as explained this is the TWC as disclosed in Hepburn.

While element 20 was described as the control means, it is correct that this is an EEC which has signals sent to it over conductors 38 and 40. See Hepburn, column 2, lines 24-29.

Also, the control means in the context claimed has a function which has not been identified in the rejection with respect to the Hepburn reference. Also, there is a statement that "this clearly causes a reduction in NO_x conversion efficiency of the purifying means (32)." This statement is not understood because it appears that the rejection is relying on a possibility or a probability with respect to the reference.

In rejecting a claim under 35 U.S.C. § 102, the specific features must be shown in the reference either specifically or by inherency. It is considered that the rejection does not carry out this requirement. See *Continental Can Co. USA, Inc. v. Monsanto*, 20 USPQ2d. 1746, 1749, 1750 (Fed. Cir. 1991) which stated as follows:

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To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled . . . [such] that the missing . . . matter is necessarily present in the . . . reference, and that it would be so recognized by persons of ordinary skill . . . "Inherency . . . may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient . . ."

Also, in the rejection, there is a statement in the first sentence of the last paragraph on page 4, which is as follows: "the mechanism of purging and reduction of sulfates stored in the purifying means is similar to the three-way catalytic reduction of nitrates" (emphasis added), but the statement of similarity is not consistent with a rejection under 35 U.S.C. § 102, which requires that the reference show each and every limitation in the context claimed. ?

Also, it appears in the rejection that the specifics of what was added to claim in the last reply have not been addressed or identified specifically in the reference. It is required under law that when a rejection is made under 35 U.S.C. § 102 that each and every limitation be identified in the reference, which the present rejection fails to do. See *Ex parte Levy*, 17 USPQ2d. 1461, 1462 (BPAI 1990) wherein the Board stated as follows: mout!

The factual determination of anticipation requires the disclosure in a single reference of every element of the claimed invention . . . Moreover, it is incumbent upon the Examiner to identify wherein each and every facet of the claimed intention is disclosed in the applied reference. *Linde-Mann Maschinenfabrik GmbH v. American Hoist and Derrick*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984)

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. § 102.

Second Rejection

Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hepburn, as applied to claim 1 above in view of design choice. This is a repeat of the rejection in the last Office Action. In reply, the comments previously presented are substantially repeated.

Initially, as explained in the reply to the first rejection, the reference to Hepburn does not show the structure claimed. The reliance on design choice is improper because the functions of what is claimed and the reference are different. See *In re Chu* 36 USPQ 2d 1089 (Fed. Cir. 1995) wherein the Court stated as follows:

Finding of "obvious design choice" precluded when a claim structure and the function it performs are different from the prior art.

Also, "design choice" is not a reference as the rejection correctly indicates.

The particular limitations referred to in the rejection do add to the totality of the claimed device and are more than design choice. See the importance of the structure as set forth, for example, on page 6, line 27 to page 7, line 2, and page 17, line 12 to page 18, line 9 of the specification.

It was also asserted as follows "moreover, there is nothing in the record which establishes that the claim maximum volumetric or weighed amount of

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oxygen absorbs in a light of catalyst presents a novel of unexpected result (see *In re Kuhle*).

There is nothing in the law that requires an unexpected result. The only issue to be resolved is the question of obviousness. Furthermore, the particular weighed maximum volumetric or weighed amount of oxygen absorbs in a light catalyst as claimed in claims 3 and 4 does give an improved result as set forth in the Specification. See, for example, page 7, the first two paragraphs, which states the advantages (unexpected result) of the limitations in claims 3 and 4.

Also, the citation of *In re Kuhle* (cited in the Office Action) has been considered. As the facts in that case do not parallel the facts in this case, the citation of that case does not add anything to the rejection under 35 U.S.C. §103.

Additionally, the Examiner asserts that one skilled in the art would have recognized the claim differences. See page 6, next to last paragraph. There is no factual basis for this speculation. It is incumbent on the Patent Office to supply facts to support a rejection under 35 U.S.C. §103. See, *In re Warner*, 154 USPQ 173, 178 (CCPA 1967) wherein the court stated as follows:

A rejection based on section 103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. In making this evaluation, all facts must be considered. The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. § 103.

Third Rejection

Claims 1 and 8-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hepburn in view of Araki et al. (U.S. Patent No. 5,850,735). This rejection is traversed.

The comments regarding Hepburn set forth in the reply to the first rejection are incorporated herein.

The Office Action correctly recognizes at least that Hepburn fails to disclose in specific detail of the mechanism in which SO_x is purified by the exhaust gas purifying means. To assert that this difference is obvious Araki et al. was relied on with the statement that "the mechanism of purifying SO_x in the exhaust gas is similar to the three-way catalytic purification of NO_x in which harmful emissions of NO_x, HC, and CO in the exhaust gas are eliminated".

Initially, this is merely speculation as there is nothing in the secondary reference to Araki et al. to support the speculation set forth in the Office Action. Also, there are other differences addressed in the rejection and the assertion why one skilled in the art would be motivated to modify this as set forth in the paragraph bridging pages 8 and 9 of the Office Action is not based on fact. See *In re Zurko*, 59 USPQ2d 1693, 1697 (Fed. Cir., Aug. 2001) wherein the court stated as follows:

This assessment of basic knowledge and common sense was not based on any evidence in the record and, therefore, lacks substantial evidence support. As an administrative tribunal, the Board clearly has expertise in the subject matter over which it exercises jurisdiction. This expertise may provide sufficient support for conclusions as to peripheral issues. With respect to core factual findings in a determination of patentability, however, the Board cannot simply reach conclusions based on its own understanding or experience -- or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings.

With respect to the dependent claims, these claims are considered patentable at least for the same reasons as their base claim or intervening claims.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. § 103.

Fourth Rejection

Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hepburn in view of Araki et al. as applied to claim 1 above and further in view of design choice. This rejection is traversed.

Initially, the reasons why Hepburn in view of Araki et al. do not show the structure of claim 1 was set forth in the reply to the third rejection, *supra*.

Additionally, "design choice" is not a reference and is only a speculation unsupported by any evidence that this is a "design choice". See the case of *In re Chu* cited in the reply to the second rejection.

Also, the rejection repeats the assertion that there is nothing critical about the maximum volumetric or weighed amount of oxygen absorbed in a light-off catalyst. As set forth, an "unexpected result" is not a test of obviousness, but there is an unexpected result. See the reply to the second rejection.

Also, the statement in the sentence bridging pages 12 and 13 is speculation.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection under 35 U.S.C. § 103.

Fifth Rejection

Claims 6 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hepburn in view of Takeshima as applied to claim 5 and further in view of design choice. This rejection is traversed.

The rejection under Hepburn in view of Takeshima was traversed in the reply to the rejection of claim 5, supra. Also, the comment regarding "design choice" was fully covered and set forth above.

Also, the comment in the sentence bridging pages 13 and 14 was addressed above.

For the reasons set forth above, the Examiner is requested to reconsider and withdraw the rejection under 35 U.S.C. § 103.

CONCLUSION

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Mr. Elliot Goldberg at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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